

Amendments to the Drawings

The attached drawing includes changes to Figure 5. This sheet replaces the original sheet in the specification.

Attachment: Replacement Sheet

Annotated Sheet Showing Changes

REMARKS / ARGUMENTS

In complete response to the Office Action dated February 13, 2008, on the above identified application, reconsideration is respectfully requested. Claims 1-44 are pending in this application.

With this amendment, claims 22, 23, 24, and 35 are amended, and claim 33 is cancelled. Figure 5 is also amended.

Drawing Objections

The drawings are objected to under 37 CFR 1.83(a) because they fail to show the portion of the transport conduit (e.g. slip stream) that is narrower than the other portions of the chemical transport conduit. The Applicants respectfully contend that this structural detail is not essential for proper understanding of the disclosed invention, and that paragraph 0037 of the Specification would be understood by one of skill the art to specify that the diameter of the slipstream portion, which "tees" off of the transport conduit, may have a smaller diameter (e.g. is narrower) than the transport conduit proper. Further as the drawings are schematic in nature, the Applicants respectfully contend that this structural element need not be displayed. Notwithstanding the above, Applicants would point out that Figure 2 shows lines branching off from the transport conduit which are narrower than the chemical transport conduit 130.

Figure 5 is also objected to under 37 CFR 1.83(a) for not showing the transport conduit, as well as possible locations of the slip stream. Figure 5 has been amended.

Claim Objections

Claim 22 is objected to under 37 CFR 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. Claim 22 has been amended.

Claim 24 has been amended to coincide with the previously used terminology in claim 19.

Claim 35 has been amended to correct a sentence structure error.

Due to these claim amendments, the Applicants respectfully contend that the basis for these objections is now moot.

Claim Rejections Under 35 U.S.C. § 112:

Claim 23 is rejected under 35 U.S.C. 112, first paragraph as failing to comply with the enablement requirement. Claim 23 has been amended.

Claims 27-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Applicants respectfully contend that claims 27-32, are not indefinite. Figure 5 has been amended to show better show the relation between the transport conduit 130 and the slipstream 500. The Applicants respectfully contend that one of skill in the art would recognize that slipstream 500 is a flow path which "tees" off of the transport conduit such that part of the process chemical may be diverted (ultimately towards the refractive index sensor). Control unit 230 may control entry to the slipstream via actuation of first valve 520. Further, applicants contend that paragraph 0037 of the Specification would be understood by one of skill the art to specify that the diameter of the slipstream portion, which "tees" off of the transport conduit, may have a smaller diameter (e.g. is narrower) than the transport conduit proper.

Claim 33 is rejected under 35 U.S.C. 112, first paragraph as failing to comply with the enablement requirement. Claim 33 has been cancelled.

Claim 35 is rejected under 35 U.S.C. 112, first paragraph as failing to comply with the enablement requirement. Claim 35 has been amended.

Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Applicants respectfully contend that

claim 24 is enabled, at least by paragraphs 53-56, and Figure 9. Further, one of skill in the art would understand a feedback type process where a value is compared to a predetermined value electronically stored in a library.

Claim 33 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. Claim 33 has been cancelled.

Claim 35 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. Claim 35 has been amended.

Due to the aforementioned claim amendments and cancellations, the Applicants respectfully contend that the basis for the rejections under 35 U.S.C. 112 deserve reconsideration.

Claim Rejections Under 35 U.S.C. § 103:

Claims 19-23 and 27-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vanell et al. (US 6,267,641).

Vanell '641 discloses a refractometer coupled or connected to a sensing port of a CMP chamber. Thus, the refractometer of Vanell '641 is integral to the chamber. One of skill in the art would not find a teaching or motivation in Vanell '641 for locating a refractometer upstream from the chamber such that the refractometer was not integral, and is located on a slipstream, as per the claims of the instant invention. In other words, Vanell '641 teaches a refractometer on the main flow path of the process chemical, and one of skill in the art would not recognize the need to locate a refractometer on a slipstream from Vanell '641. Further, Vanell '641 neither teaches nor suggests the need for locating the refractometer such that it is accessible for periodic calibration and cleaning. In fact, the location of Vanell '641 refractometer teaches away from the need for calibration and cleaning as it would only be possible to perform these operations by removing the refractometer from the main process chemical flow path (i.e. not possible to perform operation in an 'online' manner). One

of skill in the art would also not find a teaching or suggestion in Vanell '641 as to the introduction of a cleaning solution based upon a measured drift in readings/signals from the refractometer.

For at least these reasons, the Applicants respectfully contend that the basis for this rejection deserves reconsideration.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vanell et al. in view of Shiraishi et al. (US 5,501,870). Vanell '641 has been discussed previously. The Applicants respectfully contend that the addition of Shiraishi '870 does not overcome the deficiencies of Vanell '641. For at least these reasons, the Applicants respectfully contend that the basis for this rejection deserves reconsideration.

Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vanell et al. in view of Luger (US 4,012,199). Vanell '641 has been discussed previously. The Applicants respectfully contend that the addition of Luger '199 does not overcome the deficiencies of Vanell '641. For at least these reasons, the Applicants respectfully contend that the basis for this rejection deserves reconsideration.


Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vanell et al. in view of Ono et al. (US 4,943,725). Vanell '641 has been discussed previously. The Applicants respectfully contend that the addition of Ono '725 does not overcome the deficiencies of Vanell '641. For at least these reasons, the Applicants respectfully contend that the basis for this rejection deserves reconsideration.

Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vanell et al. in view of Molloy (US 6,245,578). Vanell '641 has been discussed previously. The Applicants respectfully contend that the addition of Molloy '578 does not overcome the deficiencies of Vanell '641. For at least these reasons, the Applicants respectfully contend that the basis for this rejection deserves reconsideration.

CONCLUSION

Accordingly, it is believed that the present application now stands in condition for allowance. Early notice to this effect is earnestly solicited. Should the Examiner believe a telephone call would expedite the prosecution of the application, he is invited to call the undersigned attorney at the number listed below.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "B.S. Clark", is written over a horizontal line.

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